REMARKS

At the outset, applicants would like to thank Examiner Ruddock for her time and consideration of the present application during the interview with Robert Madsen on June 8, 2006. At the interview, it was agreed that none of the references relied on in the rejections teach the recited combination of functionality and bond structure/linkages recited in previously presented claim 24. It was proposed to amend claim 1 by including the features recited in claim 4 and some of the feature recited in claim 21, amend claim 15 by incorporating the features recited in claim 16, and to cancel claims 4 and 16. It was agreed that the amendment does not raise new issues because the new recitations in claims 1 and 15 were previously recited in dependent claims.

The claims have been amended in a manner believed to be consistent with the proposed amendment discussed during the interview. Therefore, applicants respectfully request entry and consideration of the amendment.

Claims 1, 15, and 21 have been amended substantively. Support for the amendments to the claims may be found throughout the specification, and in particular at the beginning of page 5 and at page 8, line 31. Claims 2, 3, 5, 6, 17, and 18 have been amended as to form only. Claims 4 and 16 has been cancelled. Claims 1-3, 5, 6, 13-15 and 17-24 remain pending in the present application.

Claims 1-3 and 6 were rejected as anticipated by TERRY et al. US 5,981,010 ("TERRY").

Claims 4-5 were rejected as obvious over TERRY in view of GB 1314352 (GB '352).

Claims 13-24 were rejected as obvious over TERRY in view of VERMILLION US 6,021,621 ("VERMILLION").

The invention, as claimed, is directed to a sealing membrane comprising thermoplastic polyurethane that is highly stable to UV exposure. Thermoplastic polyurethane molecules are free of double carbon-carbon bonds, the polyols are free of ethylene linkages, and the functionality of the polyols is substantially equal to 2 as recited in claim 1, or between 1.95 and 2.05 as recited in claims 15 and 24, and the functionality of the isocyanates is substantially equal to 2 as recited in claim 1, or between 2.0 and 2.1 as recited in claim 15.

TERRY is directed to a polyurethane modified composition formed from polybutadiene. Polybutadiene has carbon-carbon double bonds, which are known as being unstable in UV. The fragility in UV is made evident by the necessary presence of upper protective film 12 of LDPE in TERRY. Thus, TERRY fails to disclose or suggest that the polyurethane is free of double carbon-carbon bonds and that the membrane is highly stable to UV exposure, as recited in the claimed invention.

Furthermore, the polymer added to the bitumen according to TERRY has a functionality between 2.2 and 2.6. Such a value

causes the membrane of TERRY incapable of being softened by reheating and recovering after subsequent cooling as recited in the claimed invention. This is made evident by the fact that the positioning of the membrane is carried out without using any heating or softening under flame (see the beginning of column 3 and column 5, lines 51-57 of TERRY). Instead, TERRY discloses the membrane is fixed to the support by gluing/adhering of the cold bitumen composition (gluing power is increased by the addition of a particular gluing/adhesive agent - see column 2, lines 34-47). Thus, TERRY fails to disclose or suggest the recited functionality substantially equal to 2, or polyols between 1.95 and 2.05 and isocyanates of between 2.0 and 2.1, that results in a composition adapted to be softened by reheating and recover after subsequent cooling, as recited in the claimed invention.

Even if the overall membrane compositions of TERRY appear to be similar to the claimed invention as asserted in the Official Action, TERRY fails to disclose or suggest the recited bond structure/linkage and functionality, as well as resulting recited properties (e.g. softened by reheating and recover after cooling).

The Official Action offers GB '352 for the teaching of thermoplastic polyurethane having a functionality of substantially equal to 2 and constituted by 10-40% hard segments.

GB '352 relates to bituminous products containing preferably more than 5% of polyurethane and up to 10% of polyurethane (while the invention's bituminous binder comprises 10 to 50% of polyurethane). The thermoplastic character of the bitumen/polyurethane compound does not result from the particular nature of the polyurethane (as is the case for the claimed invention - functionality substantially equal to 2), but from its very low quantity present in the composition (less than 5%). This is in accord with the principal teaching of GB '352 as will be seen from a comparison of the paragraph in lines 12-21 of page 1, with the paragraph in lines 25-32 of page 1.

Contrary to the assertion made in the Official Action, the functionality of the polymer added to the bitumen is not comprised between 2 and 8, but instead it is between 5 and 8 (see line 62, page 1 of this document).

Therefore, GB '352 fails to disclose or suggest the recited "substantially equal to 2" functionality and a polymer that is softened by reheating and recover after subsequent cooling, and, thus, cannot remedy the deficiencies of TERRY for references purposes.

The Official Action offers VERMILION for the teachings of the recited fibrous backing support and the recited thermoplastic polyurethane comprising a diisocyanate, a polyol, and a chain lengthening agent, wherein the polyurethane molecules are free of double carbon-carbon bonds, the polyols are free of

ethylene linkages, the functionality of polyols is between 1.95 and 2.05, and the functionality of isocyanates is between 2.0 and 2.1.

VERMILION is specifically directed to the production of a "penetration pocket" arranged about a projecting or protuberant conduit on a roof. This penetration pocket is positioned before application of the upper sealing layer and deforms by partially melting, at its edges, during hot application of a bitumen based mixture adapted to form this sealing layer. As a result, VERMILION absolutely does not relate to a prefabricated membrane as recited in the claimed invention, with a support comprising plural fibrous backings impregnated throughout or a coated fibrous backing. The fibrous material of VERMILION consists of separated fibers which permit the penetration pocket to deform when hot and to melt marginally in the sealing layer formed of hot applied bitumen. Thus, VERMILION fails to disclose or suggest the recited backing support.

Furthermore, VERMILION does not specifically define or give a particular choice of polyurethane integrated into the bitumen. Thus, VERMILION cannot remedy the deficiencies of TERRY for reference purposes.

Therefore, in view of the above, applicants respectfully request that the anticipation and obviousness rejections be withdrawn, since none of the publications alone, or in combination, disclose or suggest the claimed invention.

Applicants believe that the present application is in condition for allowance at the time of the next Official action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

Robert Madsen Reg. No. 58,543
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

RM/lk